DOCUMENT RESUME

ED 086 083 HE 004 987

AUTHOR	Romney, Leonard C.
TITLE	Information Exchange Procedures Manual (Field Review Edition): A Synopsis. Technical Report No. 46.
INSTITUTION	Western Interstate Commission for Higher Education, Boulder, Colo. National Center for Higher Education Management Systems.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
PUB DATE	73
NOTE	114p.
EDRS PRICE	MF-$0.65 HC-$6.58
DESCRIPTORS	*Educational Administration; *Educational Planning; *Higher Education; *Information Systems; *Management; Manuals

ABSTRACT

The purpose of the Information Exchange Procedures (IEP) projects is to create among higher education institutions the capability for exchanging and reporting that information, both financial and otherwise, necessary to calculate and evaluate costs (1) by discipline and course level and (2) by student program and student level. Most uses of comparable information and analysis can be grouped into three management functions: resource acquisition, resource allocation, and planning and management. The major benefits of comparative analysis come from determining why differences exist. The field review version of the procedures manual is concerned with directly assignable costs (that is, costs that can be assigned to specific activities). Full costing procedures, however, will be added in the final edition of the procedures manual after they have been adequately pilot tested and reviewed. The dominant theme in the project is to provide for collection and exchange of those data that will provide funders, resource allocators, and planners and managers with comparable data on which to base valid judgments. (Author)

FILMED FROM BEST AVAILABLE COPY

ED 086083

INFORMATION EXCHANGE PROCEDURES MANUAL (FIELD REVIEW EDITION): A SYNOPSIS

Technical Report 46

INFORMATION EXCHANGE PROCEDURES MANUAL (FIELD REVIEW EDITION): A SYNOPSIS

TECHNICAL REPORT 46

National Center for Higher Education Management Systems at WICHE

HE 004 987

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

National Center for Higher Education Management Systems at WICHE

An Equal Opportunity Employer

Executive Director, WICHE:

Robert H. Kroepsch

Associate Director, WICHE, and
Director, National Center for
Higher Education Management Systems
at WICHE:

Ben Lawrence

Associate Director, NCHEMS, and
Director, Applications and Implementation
Program:

Robert A. Huff

Associate Director, NCHEMS, and
Director, Research and Development Program:

Robert A. Wallhaus

Assistant Director, NCHEMS:

Joanne E. Arnold

Assistant Director, NCHEMS:

Gordon Ziemer

The Western Interstate Commission for Higher Education (WICHE) is a public agency through which the 13 western states work together

. . . to increase educational opportunities for westerners.

. . . to expand the supply of specialized manpower in the West.

. . . to help universities and colleges improve both their programs and their management.

. . . to inform the public about the needs of higher education.

The Program of the National Center for Higher Education Management Systems at WICHE was proposed by state coordinating agencies and colleges and universities in the West to be under the aegis of the Western Interstate Commission for Higher Education. The National Center for Higher Education Management Systems at WICHE proposes in summary:

To design, develop, and encourage the implementation of management information systems and data bases including common data elements in institutions and agencies of higher education that will:

- provide improved information to higher education administration at all levels.
- facilitate exchange of comparable data among institutions.
- facilitate reporting of comparable information at the state and national levels.

Western Interstate Commission for Higher Education
Post Office Drawer P — Boulder, Colorado 80302

INFORMATION EXCHANGE PROCEDURES MANUAL (FIELD REVIEW EDITION):

A Synopsis

ED 086083

INFORMATION EXCHANGE PROCEDURES MANUAL (FIELD REVIEW EDITION):

A Synopsis

Technical Report No. 46

Leonard C. Romney

1973

This document is part of a program supported by the National Institute of Education

National Center for Higher Education Management Systems at Western Interstate Commission for Higher Education

P. O. Drawer P Boulder, Colorado 80302

An Equal Opportunity Employer

FOREWORD

The Information Exchange Procedures Manual (Field Review Edition): A Synopsis has been reviewed and approved for release by the Information Exchange Procedures project Steering Committee, the staff of the National Center for Higher Education Management Systems (NCHEMS), and the Current Projects Committee of NCHEMS Board of Directors. The purpose of this document is to provide the reader with a concise summary of the contents of the Information Exchange Procedures Manual (Field Review Edition) (Renkiewicz and Topping, 1973). Following the review and pilot testing process, the procedures manual will be revised and published for general distribution. At that time, a document parallel in purpose to this one will also be prepared.

Because the contents of this synopsis document and those of the procedures manual itself are still evolving, they are not intended for implementation at this time. Field testing and further analysis are necessary before general implementation can be recommended by NCHEMS, even though subsets of the definitions and procedures in the manual have been pilot tested successfully at a limited number of various types of institutions, most of which are primarily instructional in nature. While NCHEMS is confident that its products will represent significant steps forward in the improvement of information exchange procedures, it is concerned that care should be taken that such procedures are not prematurely or indiscriminately applied across the full spectrum of higher education.

Revised versions of this synopsis document as well as the procedures manual are expected to be available in February 1975.

ABSTRACT

The purpose of the Information Exchange Procedures (IEP) project is to create among higher education institutions the capability for exchanging and reporting that information, both financial and otherwise, necessary to calculate and evaluate costs (1) by discipline and course level and (2) by student program and student level.

Most uses of comparable information and analysis can be grouped into three management functions: resource acquisition, resource allocation, and planning and management. The major benefits of comparative analysis come from determining why differences exist.

The staff, the IEF Task Force, and the IEP Steering Committee have agreed upon a set of principles to guide their efforts in this sensitive area. First, the collected data should be useful to the decision-making and planning processes of higher education. Second, the conventions and procedures for aggregating the data must be uniform. Third, information should arise from uniformly defined terms. Finally, reporting and exchange should facilitate and improve communication between users and providers of data at all levels.

The field review version of the procedures manual is concerned with *directly assignable* costs (that is, costs that can be assigned to specific activities). Full costing procedures, however, will be added in the final

edition of the procedures manual after they have been adequately pilot tested and reviewed. The dominant theme in the project is to provide for collection and exchange of those data that will provide funders, resource allocators, and planners and managers with comparable data on which to base valid judgments.

This document has been distributed to the entire NCHEMS mailing list to solicit comments and recommendations about the direction of the IEP project. Comments should be sent to Leonard Romney, National Center for Higher Education Management Systems at WICHE, P. O. Drawer P, Boulder, Colorado 80302.

Opinions expressed in this paper are those of NCHEMS, the IEP Steering Committee, and the Current Projects Committee of the Board of Directors and do not represent an official position of the Western Interstate Commission for Higher Education or the National Institute of Education.

ACKNOWLEDGMENTS

This document represents the efforts of many persons to whom the author is indebted. In particular, the members of the Steering Committee of the Information Exchange Procedures project have deliberated at length over the issues, guidelines, and approach outlined in these few pages and described in detail in the Information Exchange Procedures Manual (Field Review Edition) (Renkiewicz and Topping, 1973).

Mr. Edwin W. Beach
Chief
Budget Division
Department of Finance
State of California
1025 P Street
Sacramento, California 95814

Dr. Joseph W. Fordyce
President
The Junior College District
of St. Louis
5801 Wilson Avenue
St. Louis, Missouri 63110

Dr. T. Edward Hollander
Deputy Commissioner for
Higher and Professional
Education
The State Education Department
The University of the State
of New York
Albany, New York 12224

Dr. Robert W. MacVicar
President
Oregon State University
Corvallis, Oregon 97331

Dr. Donald McNeil*
Chancellor
University of Maine
Central Office
Portland, Maine 04102

The Honorable Lynn Newbry
State Senator
P. O. Box 606
Ashland, Oregon 97520

Dr. Robert L. Sproull
President
The University of Rochester
Rochester, New York 14627

Dr. Thomas E. Wenzlau
President
Ohio Wesleyan University
Delaware, Ohio 43015

*Chairman of the Steering Committee

Members of the IEP Task Force, because of their work on the procedures manual, have contributed substantively, if indirectly, to this synopsis document.

Mr. Frank Borchert, Jr.
Institutional Planning
Case Western Reserve
Cleveland, Ohio 44106

Mr. David Carter*
Director of Financial Planning
University of Maine
107 Maine Avenue
Bangor, Maine 04401

Mr. Jim Christiansen
Controller
Seattle Community College
401 Queen Anne Avenue North
Seattle, Washington 98109

Mr. Ernest Conrad
Vice President for Business
and Finance
210 Administration Building
University of Washington
Seattle, Washington 98195

Mr. Denis Curry
Deputy Coordinator for
Information Systems
Washington Council on
Higher Education
908 East 5th Street
Olympia, Washington 98504

Mr. Bob LaLiberte'
Management Analyst
California Department
of Finance
1025 P Street
Sacramento, California 95814

Mr. Burnett O. Little
Director, Moton Management
Improvement Program
2063 79th Avenue
Baton Rouge, Louisiana 70870

Dr. Joseph McGuire
Vice-President, Planning
University of California
247 University Hall
Berkeley, California 94720

Mr. Chalmers Norris
Budget Officer
Pennsylvania State University
301 Old Main
University Park, Penn. 16802

Dr. William Odom
Director of PPBS Project
Division of Community Junior Colleges
Knott Building
State Department of Education
Tallahassee, Florida 32304

Mr. Lynn Peltier
Assistant Director
Office of Institutional Research
Michigan State University
331 John A. Hannah Admin. Building
East Lansing, Michigan 48823

Dr. Barbara Ryan
Director of Institutional Research
Central State University
400 East Hurd
Edmond, Oklahoma 73034

Finally, the NCHEMS staff members have given generously of their time and intellect in reviewing this synopsis document and the procedures manual.

---

*Chairman of the Task Force

TABLE OF CONTENTS

	Page
INTRODUCTION	
General	1
Purposes and Objectives	2
Guidelines and Considerations	3
INFORMATION EXCHANGE	
General	7
The Measures	8
The Structure	11
The Procedures	12
APPLICATIONS	
General	15
Uses	15
Limitations in the Structures, Measures, and Procedures	19
Limitations to Data Interpretation	22
FUTURE DIRECTIONS	24
APPENDIX	
Information Exchange Procedures Display Formats	29
BIBLIOGRAPHY	103

INTRODUCTION

General

This document contains a summary and interpretation of the Information Exchange Procedures Manual (Field Review Edition) (Renkiewicz and Topping, 1973), which has been prepared by the National Center for Higher Education Management Systems (NCHEMS) at the Western Interstate Commission for Higher Education (WICHE). The procedures manual describes the methodology designed by NCHEMS for purposes of interinstitutional exchange of data about higher education. The purpose of this synopsis paper is to abridge the procedures manual, outline the methodology, and explain its limitations.

The advent of the Information Exchange Procedures (IEP) project stems not only from the need to develop aids for helping institutional planners and managers, but also from the current emphasis on accountability in higher education. Federal agencies, state agencies, governing boards, private donors, students, and the public at large are requesting that the resources they provide be used effectively and efficiently. An appropriate response by the academic community to these requests depends to a great extent on the availability of comparably defined and collected information from institutions supported by well-conceived procedures for exchanging and reporting the information. The IEP project is intended to provide a means for achieving these objectives.

Purposes and Objectives

Originally, the IEP project, called the Cost Exchange Procedures project, was designed to fulfill requirements for exchanging comparable cost information among a few institutions of higher education in the western United States. Expansion of the NCHEMS organization to one of national scope correspondingly expanded the potential audience for the information exchange procedures. At the same time, it was realized that cost information alone, while necessary and important, would not be sufficient for exchange and reporting purposes. Supporting data would be necessary to explain and interpret the cost information. All parties to information exchange would be better served if the scope of the project were expanded to include not only cost information but also other related kinds of information. Thus, the focus of the project was broadened to include such financial, staff, student, activity, facility, and outcome information as is essential for significant interpretations of cost data.

Accordingly, the purpose of the IEP project is to create the capability in institutions to exchange information both on costs and on the factors that determine and explain costs of programs and activities. The project has been charged specifically with developing procedures for costing at the *course level* within disciplines, such as the average cost-per-student credit hour in lower division biology courses or in graduate-level teacher education courses. The procedures also deal with costs for *student levels* in various student programs, such as the average cost of a student credit hour taken by a graduate

history major. Perhaps the most important aspect of the IEP project is to provide procedures for associating explanatory and interpretive information with each of these kinds of cost data.

The expansive range of the objectives of the IEP project mandates that other NCHEMS projects be relied upon to develop and support portions of the information exchange procedures. In some ways the IEP project serves as a repository for the definitions and procedures developed in related projects. For example, the costing procedures stem directly from the Cost Finding Principles project (Topping, forthcoming), the facilities information from the Higher Education Facilities Inventory and Classification Manual (Romney, 1972), data element definitions from the Data Element Dictionary (Goddard, Martin, and Romney, 1973), the format for classifying and arraying information from the Program Classification Structure (Gulko, 1972) and Program Measures (Miyataki and Topping, 1973), and the procedures for collecting information on faculty and faculty compensation from the Faculty Activity Analysis: Procedures Manual (Manning and Romney, 1973).

Guidelines and Considerations

Procedures for exchanging comparable data must acknowledge that those who provide the data have legitimate concerns, especially about limitations and possible misuses of the data, even though they may be comparable. Critics of information exchange believe that the difficulty in obtaining measures of institutional quality, purpose, history, and goals makes attempts to

derive or use data for comparative purposes impractical. They suspect that the information will be misapplied or used unfairly and that data availability will encourage inappropriate intervention in institutional operations. Critics contend also that comparable data will result ultimately in a leveling and homogenization of all programs and institutions.

Proponents of the general disclosure, exchange, and reporting of comparable data, on the other hand, predict that more intelligent planning, more informed decision making, more equitable resource allocations, improved efficiency and economy, and improved effectiveness will result.

To achieve the objectives of the IEP project and to meet the needs it addresses, the methodology for exchanging comparable information has been based on several broad principles that recognize concerns related to the effort. First, the collected data must be useful to the decision-making and planning processes of higher education. Second, the definitions, conventions, and procedures for collecting, aggregating, and displaying the data must be uniform so the real differences are not obscured by inconsistencies in definitions, methods, or handling of the data. Third, analyses in addition to comparisons of information are necessary to evaluate programs and their differences. Fourth, the procedures must be practical and feasible for most institutions and must allow for the explanation and footnoting of unusual situations. Fifth, the procedures must minimize the cost of gathering and analyzing the information while meeting the other criteria established above. Finally, the procedures must encourage improved data systems and managerial use of data at all levels of higher education.

In addition to these explicit guidelines, several broad considerations have influenced the procedures:

1. *Comparisons must be pursued to the point of understanding why any identified differences occur.* Considerable caution must be employed in making comparisons among institutions or programs. Comparative data should include a number of institutional descriptors in order to distinguish existing programmatic and institutional differences.

2. *Accountability requirements for comparable information should not lead to standardized performance values for higher education.* One strength of higher education in the United States is its diversity of programs, funding, and accessibility. A loss of this diversity could result in a more homogeneous and uniform higher education system incapable of innovation, free inquiry, or response to the changing needs of society. Information exchange, therefore, should not foster standards that impose conformity and limited flexibility, and bench mark data should not be interpreted as operational standards.

3. *The lack of comprehensive, reliable outcome indicators carries with it serious limitations.* The current procedures include a limited list of outcome measures, most of which have not been tested extensively. Despite this current absence of comprehensive, tested outcome measures, the benefit or outcome side of the cost/benefit equation must not be neglected.

4. *Exchanging comparable information has significant implications for relationships between institutions and their funders.* The availability of accurate and comparable information should provide the basis for a more reasoned discussion and evaluation of institutional and other agency responsibilities in a coordinated planning and management effort. Moreover, the exchange methodology should be regarded as a two-way thoroughfare, with appropriate feedback mechanisms for both suppliers and users of the information.

5. *Information exchange and reporting procedures must accentuate the fact that responsibilities accrue to all parties concerned.* Just as institutions must be held accountable, those who hold them accountable must define the areas of accountability. Accountability must apply to <u>all</u> in higher education who are concerned with acquiring, allocating, or using resources.

INFORMATION EXCHANGE

General

The overriding purpose of the Information Exchange Procedures (IEP) project is to establish a methodology for developing data that can be exchanged and used by institutions of higher education. In this regard, information describing Institution A, for example, is considered reasonably comparable with information describing Institution B, if the following conditions are met at both institutions:

1. The basic data elements, referred to as *measures*, are defined in the same way.

2. The measures are arrayed in a common structure, referred to in the procedures manual as the *activity center structure*.

3. The measures are aggregated, organized, analyzed, and then displayed in a structure in a similar manner; that is, the *procedures* for handling the measures and structures are the same.

The Information Exchange Procedures Manual (Field Review Edition) describes, defines, and lists the measures, structures, and procedures that are currently recommended for exchanging comparable information. If it can be said that measures and structures are the building blocks of comparability, then the

procedures represent the mortar that binds the methodology together. The purpose of this section is to describe briefly the current measures, structures, and procedures contained in the manual. Display formats from the procedures manual and illustrative data entered in each format are intended to acquaint the reader with the extent of the definitions and procedures incorporated in the IEP methodology. (See Appendix for these display formats and illustrative data.)

The Measures

Measures are the basic elements of information used to describe an institution, its programs, activities, style of operation, and so forth. Besides those pertaining to costs, measures in the procedures manual also treat aspects of the institution that help to explain and interpret costs from one institution or program to another.

Measures in the procedures manual are classified in the following groups:

- Participant Measures
- Resource Measures
- Activity Measures
- Financial Measures
- Outcome Measures

Participant measures identify and describe groups toward whom the activities of a program are aimed and groups who benefit directly or indirectly from the outcomes

of a program. The constraints placed on this summary document do not permit a complete enumeration of all of the measures of those who participate in the activities of an institution. It is possible, however, to provide general descriptions of the kinds of measures included. For purposes of information exchange, participants in higher education are described in terms of:

- Numerical Counts (Headcounts of Full-Time and Part-Time Participants)
- Residency (In-District, In-State, Out-of-State)
- Economic Characteristics (Family Income Level)
- Mobility (Transfer, Continuing)
- Activities (Degree Program, Student Level)
- Demographic Characteristics (Race, Sex, Age)
- Financial Characteristics (Financial Aid Status, Tuition and Fee Rates)
- Ability (Entering SAT or ACT Scores)

Note that the procedures manual does not recommend collection of these factors alone but rather recommends collection of measures that interrelate two or more factors. Numerical counts are recommended, for example, in terms of age related to sex or sex related to race. Explicit definitions of these measures, procedures for collecting them, and display formats for recording them are included in the procedures manual.

Resource measures describe the physical and human resources used to perform the activities of the institution. Resource measures pertain exclusively to facilities and personnel. Institutional personnel are described in terms of:

- Numerical Counts (Headcount)
- Activities (Service Months)
- Position (Type of Employee, Rank, Tenure Status, Department)
- Previous Experience (Highest Degree Earned)
- Demographic Characteristics (Sex, Race)

Once again, the reader should note that in the manual these factors are interrelated to create measures reflecting two or more factors.

Descriptions of physical resources are restricted to buildings. The measures consist of the following factors:

- Area (Assignable Square Feet)
- Use (Major Type of Room Use)

Activity measures describe the process or the operations within an institution primarily in instructional activities. The factors identified in the manual to establish measures of institutional activities are:

- Type of Activity (Discipline, Student Program, Organizational Unit)
- Activity Characteristics (Minimum Credits Required for Program Completion, Normal Expected Time to Program Completion)
- Level of Activity (Semester Credits Attempted, Headcount Enrollments)

Financial measures describe in dollars the use of physical and human resources for specific activities at the institution. The variables used to create the recommended financial measures are:

- Source (Revenues by Source)
- Use (Expenditures by Function Category)
- Type of Expenditure (Compensation, Supplies and Services, Capital Equipment)

Financial measures in the form of expenditures are combined with activity measures in the form of semester credits attempted to derive unit costs for the portions of the activity center structure that pertain to instruction. It is important to note that the procedures manual treats only expenditures

directly assignable to specific elements of the entire activity center structure. Procedures for determining full costs are not included in the field review version of the procedures manual but will be a subject of the pilot test and included in the next edition of the manual.

Finally, *outcome measures*, describing a limited number of the results of the programs of the institution, are included. The factors used to determine outcome measures are:

- Type of Degree (Student Program, Degree Type, Level)
- Program Completers (Number, Academic Terms Completed, Elapsed Time from Admission Date)
- Results (Successful Job Applicants, Admissions for Further Education, Degree of Satisfaction)

An important purpose of the outcome measures in the procedures manual is to encourage the taking of additional steps in the direction of outcomes identification for institutional planning and management.

The Structure

The basic structure used in the procedures manual is the Program Classification Structure (Gulko, 1972). Referred to as the *activity center structure*, it provides a standard system for organizing and aggregating the program-oriented activities of institutions of higher education. The activities defined in the structure range from instructional, organized research, and public service activities to activities that generally are judged supportive

of these so-called primary programs. Included in this latter group of support activities, for example, are executive management, student services, and library activities. Within each of these broad categories are more and more detailed levels so that ultimately an institution may use the structure to classify and describe a particular section of a specific course. Although such detail is possible with the Program Classification Structure (PCS), the IEP procedures manual has adopted more general levels of PCS detail. For example, in the areas where instructional activities are classified, the specified level of detail is the course level (lower division, upper division, and graduate) within disciplines.

The Procedures

An integral part of any effort to make data comparable across many institutions is the manner in which the measures are collected and then displayed in the standard structure. Much of the field review version of the manual is devoted to describing those procedures. The scope of this synopsis, however, does not allow a total enumeration of the procedures used. The 25 implementation procedures described in the manual have been condensed here to the following four major tasks:

First, *determine the supporting information.* This series of procedures describes the processes involved in collecting general institutional information as well as participant, resource, and financial measures. In essence these procedures provide most of the data intended to explain and interpret program and activity cost figures.

Second, *assign direct costs to the appropriate elements of the activity center structure*. This set of rather complex procedures deals with the treatment of current fund expenditures in a standard way. These procedures begin by describing the process for crossing over the existing institutional chart of accounts into the IEP activity center structure. The next steps are some of the most significant because they describe the manner in which expenditures, once crossed over, are to be redistributed within the structure. Faculty salaries, for example, are distributed to course levels within disciplines in the case of instructional activities. Much effort and time have been devoted to selecting one method from the many possible alternatives. The recommended procedure for distribution of faculty salaries is an historical faculty activity analysis which is the responsibility of the appropriate department chairperson. (See Manning and Romney, 1973.) Data describing faculty activities may be obtained from individual faculty members or supplied by the department chairperson for everyone under his or her jurisdiction.

Upon completion of this series of procedures, all current fund expenditures will have been lodged in elements of the activity center structure.

The procedures manual next specifies the steps recommended to *calculate unit direct costs*, which are unit costs calculated using direct cost figures. The objectives of the IEP project specify the exchange of unit cost information both by discipline and course level (for example, lower division biology courses) and by student program and student level (for example, upper division fine arts majors). The unit specified to determine each of these kinds of

unit direct costs is the *semester credit* or its equivalent. Discipline and course level unit direct costs result from a simple calculation after the directly assignable costs are crossed over and redistributed in the activity center structure. However, student program and student level unit direct costs involve a more sophisticated procedure described in the manual as the application of an Instructional Work Load Matrix (IWLM), which permits the redistribution of discipline and course level costs to costs for student programs and student levels. This redistribution, in essence is based on the proportion of academic work that students of each student level in each major take in various disciplines in a given year. Once student program direct costs are determined, another simple calculation is performed to establish unit direct costs for each student program and student level.

Finally, the procedures manual describes how to *determine the outcome information*. Outcome measures, though not comprehensive, play an important role in the procedures manual. These data are collected through the administration of a questionnaire to students who have completed their program and are about to begin some new activity, that is, enter the job market or continue their education. The questionnaire is designed not only to ascertain students' activities after program completion, but also to evaluate their experiences at the institution.

APPLICATIONS

General

The preceding sections have described broadly the purposes and contents of the Information Exchange Procedures Manual (Field Review Edition). Perhaps of equal importance is a discussion of the uses of the resulting data and the limitations in the current data set and its interpretation. Despite the limitations of the data, those who have participated in the development of the manual sense that application of the procedures provides users with powerful tools to understand and manage their programs and institutions better. The central theme of the limitations is simply that users ought to be cautious about reaching conclusions that may be more apparent than real once the related data are thoroughly probed and analyzed.

Uses

Undoubtedly, information resulting from the exchange procedures will be used differently by institutions, governing boards, and state and federal agencies, depending upon existing responsibilities, relationships, and programs. Whatever the environment, however, the information may be used to help to conduct assigned formal responsiblities, to achieve goals, to resolve controversies or conflicts of interest, or to achieve optimum utilization of limited resources.

Although comparable information and analysis have many potential uses, most can be grouped into three general management functions existing at all levels of higher education. For each of these functions, the essence of the decision making required is selection from among alternatives, a process that implicitly involves comparisons.

- Resource Acquisition. Whenever one or more units must justify resource requirements and compete with similar units for limited resources, comparable data should be used.

- Resource Allocation. Analysis of comparable data is a time-tested method for evaluating alternative programs, operating styles, and resource requirements and thus for establishing allocation strategies. Moreover, comparative analysis is an effective means for enhancing the efficient and effective use of resources.

- Planning and Management. The process of collecting, aggregating, and analyzing institutional data for exchange and reporting purposes will almost necessarily promote a better understanding of institutional character and requirements. More important, perhaps, is the fact that comparable information and comparative analysis are indispensible aids in planning, evaluating, and managing programs at any level in order to achieve the desired results.

In conjunction with each of these management functions, comparable data can be used in several ways. Perhaps most significant is the effect of investigating an institution's operations at the level of detail recommended by the information exchange procedures. Following the procedures literally may require managers to examine activities and programs in greater detail and comprehensiveness than customary. From this examination may arise a sense or even an intuitive understanding of what is happening that otherwise might not be possible.

Other more concrete but no less important uses of comparable data are:

- To compare an activity, a program, or an institution with itself over a period of time.

- To compare similar or essentially dissimilar activities or programs within an institution. The comparison may be for a given academic term, fiscal year, or over a number of terms to highlight relative changes.

- To compare similar activities or programs from two or more institutions. Again the comparisons may be performed for a specific time period or over a longer time frame.

- To compare data about programs, activities, or institutions with existing norms or standards.

- To promote in a general way the activities or programs being described, to dispel myths, or even to counter conventional wisdom. Comparable data, accurately gathered and displayed in good faith, can do much to improve public opinion of higher education. Rhetoric alone has tended to aggravate rather than ameliorate the trend.

These kinds of comparisons can be demonstrated through a simple analogy. Most automobile drivers are aware of the gas mileage their car gives them. But to be meaningful, that figure needs to be interpreted. The owner can compare the current mileage calculation with the car's performance over time (that is, with similar activities or programs over time). Another appropriate comparison would be with the performance of a second automobile (that is, with another program in the same institution). In addition, the owner may wish to compare with the performance of a neighbor's automobiles, one of which happens to be the same make and model as his (that is, with similar and dissimilar programs in other institutions), or with the performance rating as specified in the owner's manual, in an automobile testing magazine, or by a government agency (that is, with specified goals and objectives).

Such comparisons can provide the car owner with much insight regarding relative performance. The key questions, however, ask why the differences exist. Investigation of many related factors may provide the owner with valid reasons for the difference in relative performance. For explanations, the owner could examine, for example, the quality of maintenance and repair work, the mechanical status of the car, size of the engine, driving habits, age of the car, the

variety of drivers, weather, road conditions, altitude, loading of the car, tire pressure, driving speed, optional equipment, and so forth. One may even discover that a neighbor has been clandestinely extracting small amounts of fuel from the gas tank of one's prized economy automobile!

An analysis of comparisons is as important as the comparative information itself, for users of comparable data about aspects of higher education as well as car owners. Mere comparisons are not enough. The major benefits of comparative analysis come from determining why differences exist. For comparative analyses to be reliable, full consideration must be given to the reasons for differences in data. This more careful approach to comparative analysis places greater obligations on individuals making the analysis. They no longer can assume that any differences are unacceptable; they must identify why these differences exist. Greater obligations are also incumbent upon decision makers, for they must decide if the differences are justified. Certainly, justifiable program differences should be maintained. The uses made of information about higher education will continue to be dependent upon the good judgment and the good faith of the users at all levels.

Limitations in the Structures, Measures, and Procedures

The methods described in the procedures manual have been developed under constraints of time, state of the art, and feasibility of implementation. These constraints impose limitations on the contents of the document:

1. The procedures deal only with assigning *direct costs* to appropriate parts of the standard activity center structure. Full costing procedures, in which support costs are allocated to primary programs, are not treated in the manual but are currently being developed in the Cost Finding Principles project. They will be included and reviewed in the pilot test of the information exchange procedures.

2. The procedures treat only institutionally generated information. Non-institutional data relating to participants, outcomes, and the higher education environment are not ordinarily part of an institutional data base since procedures for handling these kinds of data are not generally available.

3. The procedures, though dealing with costs, do not treat all kinds of costs. For reasons of expediency and feasibility, some types of costs have been excluded from this phase of this project. The costing procedures, for example, yield average costs on an historical basis and do not treat incremental or marginal costs.

4. The level of aggregation used in the procedures manual is the level currently believed to be the most appropriate for most ongoing exchange purposes in support of planning and management at the institutional level. However, higher or lower levels of aggreation may be more appropriate for other situations.

5. The outcomes section of the procedures manual is limited in scope because the measures have not been extensively tested for feasibility or usefulness. The initial set of outcome measures will be tested in depth before those to be included for information exchange purposes are identified.

6. The information exchange procedures have been formulated by the NCHEMS staff and modified by critiques from the NCHEMS advisory structure. The complete manual has not been subjected either to intensive field review or pilot testing, both of which are intended future activities. However, approximately 50 institutions have had favorable experience with implementing and using subsets of the information exchange procedures. After the results of field review and pilot testing are studied, revisions will be incorporated in a revised procedures manual and synopsis document, scheduled for publication in early 1975.

7. A primary intent is that the structures, measures, and procedures developed for information exchange will be neutral and will not themselves promote differences in the data. At the same time, it is recognized that often no single "correct" method exists. In the presence of equally acceptable alternatives, the selection of a particular definition, procedure, or display structure may in itself inadvertently introduce bias into the document and its procedures.

Limitations to Data Interpretation

In addition to the limitations and constraints in the data set itself, the reader should be aware of some variables and limitations not reflected in the manual that may lie behind differences in comparable data.

1. Geographic, cultural, environmental, and economic conditions all affect the operation of an institution and the nature of the programs and activities it provides.

2. The age of a program or activity can account for comparative differences since start-up costs typically are higher than those of established, ongoing programs and activities.

3. The mission, role, and scope of compared institutions may not be obvious, but they express themselves in different operational styles and program offerings.

4. The "joint product" issue is of great importance in the context of comparison. A given activity may result in more than one kind of outcome. That such joint products exist is not in question; how to reflect them in the information exchange procedures is another matter. Essentially, the current set of procedures treats the activities of the institution, but the state of the art is such that the procedures do not

permit thorough investigation of the outcomes of those activities. One should be aware, however, that changes in some activities may have unexpected detrimental effects on outcomes that one prefers to leave untouched.

5. "Scale of operation" may account for differences. Perhaps economies of scale are reflected in activities of larger institutions but not in activities of smaller institutions.

6. The efficiency and effectiveness of the teaching, research, and administrative functions, though not quantifiable, certainly produce differences in compared activities and programs.

FUTURE DIRECTIONS

The preceding pages have summarized the contents and purposes of the Information Exchange Procedures Manual (Field Review Edition) and illustrated the uses and limitations of the procedures. The purpose of the procedures manual is to describe a methodology for exchanging comparable data about activities in institutions of higher education. Its essence lies in the standard treatment of the measures, structures, and procedures for data exchange. Although the current method has limitations, it also has substantial utility for higher education planners and administrators when used responsibly.

Future activities of the IEP project will include review, pilot testing, analysis, and revision. First, the Information Exchange Procedures Manual (Field Review Edition) will be distributed widely for review. Second, the current manual, expanded by the addition of procedures for full costing, will be pilot tested during 1974 at from 20 to 60 institutions generally representative of the entire higher education community. The intent is to test alternative procedures where questions of appropriateness and neutrality remain and to investigate the feasibility of the procedures currently described. The results of both the pilot test and review will be incorporated in a final edition of the procedures manual, due for publication in early 1975.

Third, perhaps the most important product of the project will be an analysis manual focusing on legitimate uses of comparable data. Because the pilot test will provide a large data base about various segments of higher education,

analysts at NCHEMS will be able to examine these data in ways not previously possible. These investigations will be reflected in an analysis manual scheduled for publication in mid-1975.

It is perhaps worth reemphasizing that appropriate use of comparable information about higher education will continue to depend on the good judgment and good faith of the users, both at the institutional level and at state and federal levels. Users should recognize that although the procedures reveal "true" and "accurate" information about aspects of institutional activities and programs, some of these aspects may not be changeable or manageable. Nevertheless, improvement of the available information should provide at least some assistance for improved decision making at all levels.

Unquestionably, the NCHEMS Information Exchange Procedures project touches upon sensitive areas because it will provide increased information that may be used without an understanding of its limitations and qualifications. Still, the objective of establishing a basis of comparable information for exchange and reporting should be pursued because higher education is safeguarded best when reliable information is available.

APPENDIX

INFORMATION EXCHANGE PROCEDURES
DISPLAY FORMATS

WITH

ILLUSTRATIVE DATA

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 1

GENERAL INFORMATION

Read instructions carefully before completing. Numbered items are defined in Appendix A.

1. INSTITUTION NAME: *College of the West*

2. UNIT (CAMPUS) DESCRIBED: *Red Rocks Campus*
   Name
   Street or P.O. Box *1001 Williams Fork Trail*
   City *Burney* State *Calif.* Zip Code *00956*

3. FICE CODE OF UNIT DESCRIBED: *057821*

4. INDIVIDUAL TO CONTACT:
   Name *Barbara Raines* Title *Asst. to the President*
   Office Number *Suite 367, Administration Building*
   Street or P.O. Box *1001 Williams Fork Trail*
   City *Burney* State *Calif.* Zip Code *00956*
   Phone *414-532-5237*

5. TYPE OF UNIT DESCRIBED: (check highest degree offered)

   ____ Associate Degree or Certificate Granting

   ____ Bachelor's Degree

   ____ First Professional Degree Granting

   X Master's Degree Granting

   ____ Doctorate Degree Granting

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 2

GENERAL INFORMATION

Read instructions carefully before completing. Numbered items are defined in Appendix A.

6. INSTITUTIONAL STRUCTURE (check one)

_____ Single Campus Institution

_X_ Main Campus Plus Branch(es) and/or Extension(s)

_____ Multicampus System

_____ Other (Please Describe) _____

_____

7. LEGAL IDENTITY _X_ Public _____ Private _____ Other (Specify) _____

8. PREDOMINANT CALENDAR SYSTEM (check appropriate category)

_X_ Semester _____ 4-1-4

_____ Tri-Semester _____ Other (Specify) _____

_____ Quarter

9. FISCAL YEAR *July 1, 1973* to *June 30, 1974*

10. NUMBER OF MONTHS IN ACADEMIC YEAR *9*

11. ARE THE FACULTY AT THE UNIT DESCRIBED COVERED BY A COLLECTIVE-BARGAINING AGREEMENT? _____ Yes _X_ No

12. PLEASE ATTACH A BRIEF STATEMENT OF THE GOALS AND MISSIONS OF THE UNIT DESCRIBED.

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 3

PARTICIPANT MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter III, Section B.

1. Regular Session Students Enrolled in a Degree/Diploma/Certificate Program (By Term)

Student Level \ Term		(A) Dates 9/73 to 12/73	(B) Dates 2/74 to 6/74	(C) Dates ___ to ___	(D) Dates ___ to ___	(E) Dates ___ to ___
LOWER DIVISION	Full-Time	402	398			
Minimum 12	Part-Time	129	123			
UPPER DIVISION	Full-Time	301	295			
Minimum 12	Part-Time	174	178			
FIRST PROFESSIONAL	Full-Time	---	---			
Minimum ___	Part-Time	---	---			
GRADUATE I	Full-Time	143	141			
Minimum 9	Part-Time	172	176			
GRADUATE II	Full-Time	---	---			
Minimum ___	Part-Time	---	---			
TOTALS	Full-Time	846	834			
	Part-Time	475	477			

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 4

PARTICIPANT MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter III, Section B.

2. Regular Session Students Not Enrolled in a Degree/Diploma/Certificate Program (By Term)

Student Level \ Term		(A) Dates 9/73 to 12/73	(B) Dates 2/74 to 6/74	(C) Dates ___ to ___	(D) Dates ___ to ___	(E) Dates ___ to ___
UNDERGRADUATE	Full-Time	2	3			
	Part-Time	8	9			
GRADUATE	Full-Time	1	2			
	Part-Time	12	8			
TOTALS	Full-Time	3	5			
	Part-Time	20	17			

Note: The totals in Column A should equal the nondegree totals in Display Format 6, Items 6, 7, and 8.

3. Special Session Enrollments

Special Sessions	Number of Students Enrolled
Dates _____ to _____	*No Special Sessions at College of the West.*
Dates _____ to _____	
Dates _____ to _____	

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 5

PARTICIPANT MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter III, Section B.

4. Number of Degree/Diploma/Certificate Students by Student Level and Enrollment Status (Fall Term)

Enrollment Status / Student Level	New Students	Undergraduate Transfer Students	Continuing Students	Readmitted Students
Lower Division	*243*	*43*	*152*	*93*
Upper Division	*2*	*41*	*390*	*42*
Graduate	*117*	--	*150*	*48*

Note: The total number of entries in Item 4 should equal the total of Column A in Display Format 3, Item 1.

5. Geographic Origin at First Attendance (Fall Term)

Category	Total Number of Students
In-District	---
In-State	*457*
Out-of-State	*189*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 6

PARTICIPANT MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter III, Section B.

6. Headcount Students by Age Category (Fall Term)

Age Category	Total Number of Students		
	Degree		Nondegree
	Under-grad	Grad	
17 years and under	93	0	0
18-20 years	626	14	2
21-29 years	279	300	15
30-49 years	7	1	4
50 years and over	1	0	2
Totals	1006	315	23

7. Headcount Students by Race (Fall Term)

Civil Rights Category	Total Number of Students		
	Degree		Nondegree
	Under-grad	Grad	
Asian American/Oriental	82	26	2
Native American/ American Indian	10	1	0
Negro/Black	57	11	0
Spanish Surnamed	38	8	1
All Others	819	269	20
Totals	1006	315	23

8. Headcount Students by Sex (Fall Term)

Sex	Total Number of Students		
	Degree		Nondegree
	Under-grad	Grad	
Male	556	191	9
Female	450	124	14
Totals	1006	315	23

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 7

PARTICIPANT MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter III, Section B.

9. Headcount Enrolled Students APPLYING FOR and RECEIVING Financial Aid by Family Income Category (Fall Term)

Family Income Category	Undergraduate Applicants	Undergraduate Recipients	Graduate Applicants	Graduate Recipients
$ 0 - $ 2999	*4*	*4*	*12*	*12*
$ 3000 - $ 5999	*114*	*114*	*41*	*39*
$ 6000 - $ 7499	*123*	*101*	*45*	*36*
$ 7500 - $ 8999	*119*	*94*	*48*	*12*
$ 9000 - $11999	*31*	*3*	*4*	*1*
$12000 and over	*5*	*0*	---	--
Not Known	*129*	*33*	*80*	*17*
Totals	*525*	*349*	*230*	*117*

10. Dollar Amount of Financial Aid Received

Type of Award	Undergraduate	Graduate
Scholarships and Fellowships	*$233,000*	*$ 68,000*
Loans	*186,000*	*47,000*
Work-Study	*80,000*	*
Totals	*$499,000*	*$115,000*

**College of the West offers no work-study program for graduate students.*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 8

PARTICIPANT MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter III, Section B.

11. This institution does not have access to ACT or SAT scores ☐

12. SAT or ACT Quantitative Scores for New Undergraduate and Transfer Students (Fall Term) *

SAT Score Intervals	Number of New Students In Each Interval
200 - 299	*0*
300 - 399	*13*
400 - 499	*89*
500 - 599	*19*
600 - 699	*2*
700 - 800	*0*

ACT Score Intervals	Number of New Students In Each Interval
1 - 12	--
13 - 16	--
17 - 22	--
23 - 26	--
27 - 31	--
32 or above	--

13. SAT or ACT Verbal Score for New Undergraduate and Transfer Students (Fall Term)

SAT Score Intervals	Number of New Students In Each Interval
200 - 299	*0*
300 - 399	*7*
400 - 499	*92*
500 - 599	*22*
600 - 699	*1*
700 - 800	*1*

ACT Score Intervals	Number of New Students In Each Interval
1 - 12	--
13 - 16	--
17 - 22	--
23 - 26	--
27 - 31	--
32 or above	--

**Our college requires SAT scores from only those students in the lower half of graduating class.*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 9

PARTICIPANT MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter III, Section B.

14. Tuition and Fee Charges for Full-Time Students (Academic Year)

Category		Tuition	Required Fees
Undergraduate In-District			
Undergraduate In-State	Lower Division	$ 780	$35
	Upper Division	840	35
Undergraduate Out-of-State	Lower Division	1950	35
	Upper Division	2100	35
First Professional In-State _____ _____		--	--
First Professional Out-of-State _____ _____		--	--
Graduate I In-State		1240	29
Graduate I Out-of-State		3100	29
Graduate II In-State		--	--
Graduate II Out-of-State		--	--

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 10

RESOURCE MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter IV, Section A.

1. Number of Instruction/Research/Public Service Personnel by Discipline, Rank, and Tenure Status (Fall Term)

(A) Discipline	(B) Code	Professor		Associate Professor		Assistant Professor		Lecturer/ Instructor		Teaching Assistant		Undesignated		Number of Persons on Tenure
		PT*	FT**	PT*	FT**	PT*	FT**	PT*	FT**	PT*	FT**	PT*	FT**	
Biology	*0401*	*1*		*1*		*1*	*1*	*1*		*1*				*2*
Botany	*0402*	*1*	*1*	*1*	*1*	*2*	*1*	*1*		*1*				*4*
Zoology	*0407*	*1*	*1*	*1*	*1*	*1*	*1*	*1*		*1*				*4*
Accounting	*0502*		*1*	*1*		*1*		*1*		*1*				*1*
Marketing	*0509*	*1*	*1*	*1*		*1*		*1*		*1*				*3*
Elementary Education	*0802*	*1*	*3*	*1*	*3*	*1*	*3*	*1*		*1*				*6*
									—					

*Part-time
**Full-time

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 11

RESOURCE MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter IV, Section A.

2. Highest Degree Earned by Instruction/Research/Public Service Personnel (Fall Term)

Degree Categories	Full-Time	Part-Time
No Academic Credential		
High School Diploma or G.E.D.		
Craft or Trade School Certificate		
Professional Certificate		
Associate Degree		
Bachelor's Degree		*15*
Professional Degree	*9*	*3*
Master's Degree	*12*	*18*
Doctorate	*42*	*20*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 12

RESOURCE MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter IV, Section A.

3. Average Compensation for Instruction/Research/Public Service Personnel (Academic Year)

Rank	Average Compensation	
	Full-Time	Part-Time
Professor	*$17,627*	*$10,740*
Associate Professor	*14,970*	*8,467*
Assistant Professor	*11,733*	*5,330*
Instructor/Lecturer	*9,565*	*4,720*
Teaching/Research Associate	*6,800*	*3,100*
Undesignated	--	--

4. Instruction/Research/Public Service Personnel - Sex (Fall Term)

Rank	Sex	
	Male	Female
Professor	*25*	*6*
Associate Professor	*25*	*5*
Assistant Professor	*23*	*7*
Instructor/Lecturer	*10*	*7*
Teaching/Research Associate	*7*	*5*
Undesignated	--	-

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 13

RESOURCE MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter IV, Section A.

5. Instruction/Research/Public Service Personnel - Civil Rights Category (Fall Term)

Rank	Civil Rights Category				
	Asian American/ Oriental	Native American/ American Indian	Negro/ Black	Spanish Surnamed	All Others
Professor	2	0	2	1	26
Associate Professor	0	1	0	0	29
Assistant Professor	1	0	2	0	27
Instructor/Lecturer	0	1	0	0	16
Teaching/Research Associate	1	0	1	2	8
Undesignated	-	-	-		-

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 14

RESOURCE MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter IV, Section B.

1. Assignable Square Feet by Room Use Categories and Program Designation (Fall Term)

Activity Centers \ Room Use Categories		100 Classroom Facilities	210 Class Lab	220 Special Class Lab	230 Indiv. Study Laboratory	250 Nonclass. Laboratory	300 Office Facilities	400 Study Facilities	500 Special Use Facilities	600 General Use Facilities	700 Supporting Facilities	800 Health Care Facilities	900 Residential Facilities	000 Unclassified Facilities	Total
1.0	INSTRUCTION PROGRAM	21	5.4				14.5		2	2					44.9
2.0	ORGANIZED RESEARCH					1.4	.8								2.2
3.0	PUBLIC SERVICE						.3			.5					.8
4.0	ACADEMIC SUPPORT						1.3	13.8		.3	.4				16.4
4.1.0000*	Libraries							13.1							13.1
4.6.000*	Academic Adm. & Personnel Dev.						1.4								1.4
5.0	STUDENT SERVICES						1.2		.6	5.4	1.1	.536			45
5.1.7200*	Intercoll. Athletics						.4			3.2					3.6
5.5.7320*	Health Services						.1					.5			.6
5.5.7330*	Housing Services						.3					36			36.3
6.0	INSTITUTIONAL SUPPORT						4.5		1.2	3.4	4.3				13.4
6.5.0000*	Phys. Plant Operations						2.2				2.6				4.8
6.6.7330*	Housing Services														
7.0	INDEPENDENT OPERATIONS														
9.0**	HOSPITALS														
0.0***	UNASSIGNED														
	Total	21	5.4			1.4	23.2	13.8	4	11.6	5.8	.536			122.7

*Included in the respective activity center subtotal; not duplicate in the total.

**Appears as 4.5.1200 in the Higher Education Facilities Inventory and Classification Manual (Romney, 1972).

***Appears as 8.0 in the Higher Education Facilities Inventory and Classification Manual (Romney, 1972).

2. The Total Number of Student Spaces Available in Institutional Housing (Fall Term): 253

3. The Number of Students Living in Institutional Housing (Fall Term): 249

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 15

ACTIVITY MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter V.

1. Headcount Degree/Diploma/Certificate Student Enrollment by Program and Type of Degree Sought (Fall Term)

Instructional Programs / Type of Degree		(C) Certificates & Diplomas (Less than 1 year)	(D) Certificates & Diplomas (More than or equal to 1 year)	(E) Associate Degrees (2 years or more)	(F) Bachelor's Degrees	(G) First Prof. Degrees	(H) Master's Degrees	(I) Doctorate Degrees	(J) Not Elsewhere Designated
(A) CODE	(B) PROGRAM NAME								
2205.20	History - Lower Division	-	-	-	74	-	-	-	-
2205.30	History - Upper Division	-	-	-	87	-	-	-	-
2205.50	History - Graduate	-	-	-	--	-	-	-	-
0401.20	Biology - Lower Division	-	-	-	43	-	-	-	-
0401.30	Biology - Upper Division	-	-	-	48	-	-	-	-
0401.50	Biology - Graduate	-	-	-	--	-	-	-	-

2. Credit Course Enrollments of Nondegree/Diploma/Certificate Students (Fall Term) 205

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 16

FINANCIAL MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VI, Section A.

1. Current Funds Revenues by Source

	Unrestricted	Restricted	Total
Tuition and Fees	*$1,453,000*		*$1,453,000*
Governmental Appropriations			
Federal			
State	*2,431,000*		*2,431,000*
Local			
Governmental Grants and Contracts			
Federal		*$ 50,000*	*50,000*
State		*51,650*	*51,650*
Local			
Private Gifts, Grants, and Contracts		*41,000*	*41,000*
Endowment Income	*23,000*	*20,000*	*43,000*
Sales and Services of Educational Activities	*25,900*		*25,900*
Sales and Services of Auxiliary Enterprises	*947,170*		*947,170*
Sales and Services of Hospitals			
Other Sources	*216,650*		*216,650*
TOTALS	*$5,096,720*	*$162,650*	*$5,259,370*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 17

FINANCIAL MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VI, Section B.

1.0	Instruction		
	1.1 General Academic Instruction	$1,558,237	
	1.2 Occupational & Vocational Instruction		
	1.3 Special Session Instruction		
	1.4 Extension Instruction for Credit	95,663	
2.0	Organized Research		
	2.1 Institutes & Research Centers	62,549	
	2.2 Individual or Project Research	90,415	
3.0	Public Service		
	3.1 Community Education	13,045	
	3.2 Community Service	9,270	
	3.3 Cooperative Extension Service		
	3.4 Patient Services		
	3.5 Specialized Training Program		
4.0	Academic Support		
	4.1 Libraries	236,149	
	4.2 Museums & Galleries	35,306	
	4.3 Audio/Visual Services		
	4.4 Computing Support	76,243	
	4.5 Ancillary Support (excl. Hospitals)		
	4.6 Academic Administration and Personnel Development	251,119	
	4.7 Course and Curriculum Development		
5.0	Student Service		
	5.1.7100 Student Development	128,285	
	5.1.7200 Intercollegiate Athletics	315,890	
	5.2 Supplementary Educational Services	60,100	
	5.3 Counseling & Career Guidance	47,560	
	5.4 Financial Aid Administration	32,290	
	5.5 Student Support	799,910	
6.0	Institutional Support		
	6.1 Executive Management	184,351	
	6.2 Fiscal Operations	52,941	
	6.3 General Administrative Services	230,319	
	6.4 Logistical Services	104,051	
	6.5 Physical Plant Operations	285,044	
	6.6 Faculty and Staff Services		
	6.7 Community Relations	75,435	
	6.9.8600 Building Rental	28,187	
	6.9.8800 Equipment Rental	12,098	
7.0	Independent Operations		
8.0	Student Aid		
	8.1 Scholarships	233,000	
	8.2 Fellowships	68,000	
9.0	Hospitals		
Total Current Funds Expenditures			$5,084,457
Transfers out of Current Fund			51,867
	Mandatory Transfers	51,867	
	Nonmandatory Transfers		
Net Change in Current Funds Balance			123,046
TOTAL			$5,259,370

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 18

FINANCIAL, RESOURCE, AND ACTIVITY MEASURES

DIRECT COSTS AND UNIT DIRECT COSTS
GENERAL ACADEMIC INSTRUCTION ACTIVITY CENTERS (1.1.xxxx.xx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

Activity Centers / Measures		Instruction/ Research/ Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) (D+F+H+I) Direct Costs	(K) Semester Credits Attempted	(L)= (J÷K)Cost Per Discipline Semester Credit
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp**	(G) SM*	(H) Comp.**				
0401.20	*Biology-LD*	*14.14*	*$24,821*	-	-	*7.23*	*$4,551*	*$3,940*	*$33,012*	*802*	*$ 41.16*
0402.20	*Botany-LD*	*6.43*	*11,191*	-	-	*3.63*	*2,276*	*1,920*	*25,387*	*269*	*57.20*
0402.30	*Botany-UD*	*10.28*	*17,906*	-	-	*5.24*	*3,287*	*2,773*	*23,966*	*270*	*88.76*
0402.50	*Botany-GD*	*8.99*	*15,387*	-	-	*4.41*	*2,781*	*2,346*	*20,795*	*94*	*221.22*
0407.20	*Zoology-LD*	*12.78*	*22,382*	-	-	*5.24*	*3,57*	*2,773*	*28,442*	*395*	*72.00*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 19

FINANCIAL, RESOURCE, AND ACTIVITY MEASURES

DIRECT COSTS AND UNIT DIRECT COSTS
OCCUPATIONAL AND VOCATIONAL INSTRUCTIONAL ACTIVITY CENTERS (1.2.xxxx.xx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

Activity Centers / Measures		Instruction/ Research/ Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) (D+F+H+I) Direct Costs	(K) Semester Credits Attempted	(L)= (J÷K)Cost Per Discipline Semester Credit
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp**	(G) SM*	(H) Comp.**				
				NO ENTRIES							

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 20

FINANCIAL, RESOURCE, AND ACTIVITY MEASURES

DIRECT COSTS AND UNIT DIRECT COSTS
SPECIAL SESSION INSTRUCTION (1.3.xxxx.xx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

Activity Centers / Measures		Instruction/ Research/ Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) (D+F+H+I) Direct Costs	(K) Semester Credits Attempted	(L)= (J÷K) Cost Per Discipline Semester Credit
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp**	(G) SM*	(H) Comp.**				
				NO ENTRIES							

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 21

FINANCIAL, RESOURCE, AND ACTIVITY MEASURES

DIRECT COSTS AND UNIT DIRECT COSTS
EXTENSION (FOR CREDIT) INSTRUCTION ACTIVITY CENTERS (1.4.xxxx.xx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VII.

Activity Centers / Measures		Instruction/ Research/ Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) (D+F+H+I) Direct Costs	(K) Semester Credits Attempted	(L)= (J÷K)Cost Per Discipline Semester Credit
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp**	(G) SM*	(H) Comp.**				
1.4.0000	*Extension*	*45.34*	*$78,496*			*13.55*	*$8,976*	*$7,487*	*$94,959*	*2,113*	*$44.94*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 22

FINANCIAL AND RESOURCE MEASURES

DIRECT COST
INSTITUTES AND RESEARCH CENTERS ACTIVITY CENTER (2.1.xxxx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VII.

Activity Centers / Measures		Instruction/ Research Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) Direct Costs
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp.**	(G) SM*	(H) Comp.**		
210501	*Bureau of Business Research*	*24.13*	*$36,200*			*17.31*	*$10,000*	*$3,300*	*$49,500*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 23

FINANCIAL AND RESOURCE MEASURES

DIRECT COSTS
INDIVIDUAL AND PROJECT RESEARCH ACTIVITY CENTER (2.2.xxxx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VII.

Activity Centers / Measures		Instruction/ Research Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) Direct Costs
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp.**	(G) SM*	(H) Comp.**		
220107	*Waterfowl Migration Project*	*20.67*	*$31,000*			*17.65*	*$10,200*	*$6,600*	*$47,800*
220422	*Mutation Recurrence Project*	*14.67*	*22,000*			*10.56*	*6,100*	*8,215*	*36,315*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 24

FINANCIAL, RESOURCE, AND ACTIVITY MEASURES

COMMUNITY EDUCATION (3.1.xxxx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VII.

Activity Centers / Measures		Instruction/ Research Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) Direct Costs	(K) Continuing Education Units	(L) = (J ÷ K) Cost per CEU
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp.**	(G) SM*	(H) Comp.**				
310000	Central Coord.	7.14	$10,704	-	-	2.12	$1,224	$1,021	$12,949	-	-
310502	Accounting Seminar	.91	1,364	-	-	-	-	-	1,364	34	$40.11
310509	Marketing Colloq.	.65	980	-	-	-	-	-	980	20	49.00
310802	Ed. Short Course	1.04	1,553	-	-	-	-	-	1,553	26	59.73
311302	High School Prep.	2.94	4,420	-	-	-	-	-	4,420	116	36.10

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 25

FINANCIAL, RESOURCE, AND ACTIVITY MEASURES

SUPPLEMENTARY EDUCATION (5.2.xxxx)

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VII.

Activity Centers / Measures		Instruction/ Research Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) Direct Costs	(K) Continuing Education Units	(L) = (J ÷ K) Cost per CEU
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp.**	(G) SM*	(H) Comp.**				
520000	*Remedial Skills Center*	-	-	*14.67*	*$22,000*	*.50*	*$2,550*	*$4,000*	*$28,550*	*527*	*$54.17*
520090	*European Exposure Program*	-	-	*11.00*	*16,500*	*.95*	*5,100*	*5,200*	*26,800*	*442*	*60.63*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 26

FINANCIAL AND RESOURCE MEASURES

DIRECT COSTS IN OTHER ACTIVITY CENTERS

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VII.

Activity Centers / Measures		Instruction/ Reserach Public Service		Administrative/ Support		Other Staff		(I) Supplies and Services	(J) (D+F+H+I) Direct Cost
(A) Code	(B) Name	(C) SM*	(D) Comp.**	(E) SM*	(F) Comp.**	(G) SM*	(H) Comp.**		
320000	Community Service (Central)	-	-	3.81	$ 5,730	3.5	$ 2,040	$ 1,220	$ 8,990
320502	Accounting Seminar	1.2	$1,818	-	-	-	-	-	1,818
321501	Literary Review	1.1	1,707	-	-	-	-	-	1,707
322205	History Review	1.0	1,523	-	-	-	-	-	1,523
410000	Libraries			14.4	21,600	21.2	12,240	1,425	35,265
410050	Libraries			9.6	14,400	63.6	36,720	87,910	126,077

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 27

FINANCIAL AND ACTIVITY MEASURES

DIRECT COST AND UNIT DIRECT COST BY PROGRAM

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VII.

STUDENT PROGRAMS					(F) = (D ÷ E) Cost Per Program Semester Credit
(A) Code	(B) Program Name	(C) Student Level	(D) Program Costs	(E) Number of Semester Credits	
2205.20	*History*	*LD*	*$46,915*	*1,111*	*$42.23*
1501.20	*English*	*LD*	*36,491*	*871*	*41.90*
0401.20	*Biology*	*LD*	*32,403*	*629*	*51.52*
1905.50	*Chemistry*	*LD*	*26,069*	*479*	*54.42*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 28

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

1. The Number of Program Completers Receiving a Degree/Diploma/Certificate (Fiscal Year)

Instructional Programs / Type of Degree		Certificates & Diplomas (Less than 1 year)	Certificates & Diplomas (More than or equal to 1 year)	Associate Degrees (2 years or mo.)	Bachelor's Degrees	First Prof. Degrees	Master's Degrees	Doctorate Degrees	Not Elsewhere Defined	Total No. of Degrees Awarded
CODE	PROGRAM NAME									
2205	History				53		16			69
1501	English				48		11			59
0401	Biology				27		7			34
1905	Chemistry				22		-			22
1902	Physics				10		-			10
0803	Elementary Education				71		40			111

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 29

OUTCOME MEASURES

Current Term and Year *Fall 1973*

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

2. The Number of Undergraduate Students in Degree/Diploma/Certificate Programs Who Have Left the Institution Prior to Completion of Their Program by Termination Status (Fall Term)

Student Level \ Termination Status	Not on Clear Status		On Clear Status When Exited
	Academically Dropped or Suspended	Other	
Lower Division	*43*	*21*	*87*
Upper Division	*18*	*8*	*31*

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 30

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

3. The Median Number of Terms a Degree/Diploma/Certificate Program Completer Has Completed at the Institution From Initial Entry to Date of Completion (Spring Term)

New Undergrads.
Admission Status - First Time Entrance

Instructional Programs / Type of Degree		Certificates & Diplomas (Less than 1 year)		Certificates & Diplomas (More than or equal to 1 year)		Associate Degrees (2 years or more)		Bachelor's Degrees		First Prof. Degrees		Master's Degrees		Doctorate Degrees		Not Elsewhere Defined	
CODE	PROGRAM NAME	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median	N	Median
2205	*History*							30	8								
1501	*English*							24	8								
0401	*Biology*							13	9								
1905	*Chemistry*							12	9								

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 31

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

4. The Median Number of Calendar Months Elapsed From Initial Institutional Entry to Date of Degree/Diploma/Certificate Program Completion (Spring Term Program Completers)

New Undergrads
Admission Status - First Time Entrance

Instructional Programs \ Type of Degree		Certificates & Diplomas (Less than 1 year)		Certificates & Diplomas (More than or equal to 1 year)		Associate Degrees (2 years or more)		Bachelor's Degrees		First Prof. Degrees		Master's Degrees		Doctorate Degrees		Not Elsewhere Defined	
CODE	PROGRAM NAME	n	Median	n	Median	n	Median	n	Median	n	Median	n	Median	n	Median	n	Median
2205	History							39	45								
1501	English							34	45								
1905	Chemistry							12	45								
1902	Physics							16	45								

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 32

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

5. The Number of Degree/Diploma/Certificate Program Completers Who Currently Hold or Have Secured Full-Time Jobs as a Percentage of All Degree/Diploma/Certificate Program Completers (Spring Term Program Completers)

Instructional Programs / Type of Degree		Certificates & Diplomas (Less than 1 year)		Certificates & Diplomas (More than or equal to 1 year)		Associate Degrees (2 years or more)		Bachelor's Degrees		First Prof. Degrees		Master's Degrees		Doctorate Degrees		Not Elsewhere Defined	
CODE	PROGRAM NAME	No. Employed	%	No. Employed	%	No. Employed	%	No. Employed	%	No. Employed	%	No. Employed	%	No. Employed	%	No. Employed	%
2205	*History*							*5*	*12*			*1*	*11*				
1501	*English*							*8*	*22*			*2*	*25*				
1905	*Chemistry*							*2*	*8*			-	--				
1902	*Physics*							*7*	*28*			-	--				

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 33

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

6. The Number of Degree/Diploma/Certificate Program Completers Who Currently Hold or Have Secured a Job, by Salary Level.

Type of Degree Received *Bachelor's*

Instructional Program / Salary Range		ANNUAL GROSS SALARY							
CODE	PROGRAM	Under $4,000	$4,000 to $5,999	$6,000 to $7,999	$8,000 to $9,999	$10,000 to $11,999	$12,000 to $13,999	$14,000 to $15,999	$16,000 and Above
2205	*History*				-	*3*	*1*	*1*	
1501	*English*				*1*	*4*	*2*	*1*	
1905	*Chemistry*				-	-	*1*	*1*	
1902	*Physics*				-	*1*	*5*	*1*	

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 34

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

7. The Number of Degree/Diploma/Certificate Program Completers Seeking Full-Time Employment as a Percentage of All Degree/Diploma/Certificate Program Completers (Spring Term Program Completers)

Instructional Programs / Type of Degree		Certificates & Diplomas (Less than 1 year)		Certificates & Diplomas (More than or equal to 1 year)		Associate Degrees (2 years or more)		Bachelor's Degrees		First Prof. Degrees		Master's Degrees		Doctorate Degrees		Not Elsewhere Defined	
CODE	PROGRAM NAME	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%
2205	History							18	42			6	67				
1501	English							16	43			3	37				
0401	Biology							14	58			4	80				
1905	Chemistry							11	73			-	--				

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 35

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

8. The Number of Degree/Diploma/Certificate Program Completers Seeking Admission to Another Educational Program Which Will Result in a Degree, Diploma, or Certificate as a Percentage of All Degree/Diploma/Certificate Program Completers (Spring Term Program Completers)

Instructional Programs / Type of Degree		Certificates & Diplomas (Less than 1 year)		Certificates & Diplomas (More than or equal to 1 year)		Associate Degrees (2 years or more)		Bachelor's Degrees		First Prof. Degrees		Master's Degrees		Doctorate Degrees		Not Elsewhere Defined	
CODE	PROGRAM NAME	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%	No. Seeking	%
2205	*History*							17	40			1	11				
1501	*English*							11	30			2	25				
1905	*Chemistry*							3	20			-	--				
1902	*Physics*							5	20			-	--				

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 36

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

9. The Number of Degree/Diploma/Certificate Program Completers Admitted to Another Educational Program Which Will Result in a Degree, Diploma or Certificate as a Percentage of All Degree/Diploma/ Certificate Program Completers Seeking Admission to Another Educational Program (Spring Term Program Completers)

Instructional Programs / Type of Degree		Certificates & Diplomas (Less than 1 year)		Certificates & Diplomas (More than or equal to 1 year)		Associate Degrees (2 years or more)		Bachelor's Degrees		First Prof. Degrees		Master's Degrees		Doctorate Degrees		Not Elsewhere Defined	
CODE	PROGRAM NAME	No. Admitted	%	No. Admitted	%	No. Admitted	%	No. Admitted	%	No. Admitted	%	No. Admitted	%	No. Admitted	%	No. Admitted	%
2205	History							13	76			1	100				
1501	English							8	89			1	50				
0401	Biology							4	80			1	100				
1905	Chemistry							1	33			-	-				

INFORMATION EXCHANGE PROCEDURES

DISPLAY FORMAT 37

OUTCOME MEASURES

Read instructions carefully before completing. Items are defined in Appendix A. Procedures are discussed in Chapter VIII.

10. The Responses of Degree/Diploma/Certificate Program Completers to Questionnaire Items Measuring Degree of Satisfaction with Their Educational Experience * (Spring Term Program Completers)

Instructional Program / Questionnaire I Item #9		A—F Human Relations				G—J Humanities				K—O Critical Thinking				P—S Vocational			
Code	Program Name	% of Respondents by Range of Scores				% of Respondents by Range of Scores				% of Respondents by Range of Scores				% of Respondents by Range of Scores			
		1-6	7-12	13-18	19-24	1-4	5-8	9-12	13-16	1-5	6-10	11-15	16-20	1-4	5-8	9-12	13-16
2205	*History*	*12*	*31*	*36*	*21*	*13*	*33*	*37*	*17*	*16*	*38*	*37*	*9*	*11*	*32*	*41*	*16*
1501	*English*	*9*	*33*	*47*	*11*	*8*	*34*	*48*	*10*	*12*	*38*	*42*	*8*	*16*	*38*	*40*	*6*

*Maximum points possible per item -- 4, and the minimum -- 1, e.g., the Human Relations Scale includes six items and the maximum points possible = 24.

Degree/Diploma/Certificate Type *Bachelor's*

BIBLIOGRAPHY

Goddard, Suzette; Martin, James S.; and Romney, Leonard C. Data Element Dictionary. 2nd ed. Boulder, Colo.: Western Interstate Commission for Higher Education, 1973.

Gulko, Warren W. Program Classification Structure. Boulder, Colo.: Western Interstate Commission for Higher Education, 1972.

Manning, Charles W., and Romney, Leonard C. Faculty Activity Analysis: Procedures Manual. Boulder, Colo.: Western Interstate Commission for Higher Education, 1973.

Renkiewicz, Nancy K., and Topping, James R. Information Exchange Procedures Manual (Field Review Edition). Boulder, Colo.: Western Interstate Commission for Higher Education, 1973.

Romney, Leonard C. Higher Education Facilities Inventory and Classification Manual. Boulder, Colo: Western Interstate Commission for Higher Education, 1972.

Topping, James R. Cost Analysis Manual. Boulder, Colo.: Western Interstate Commission for Higher Education, forthcoming.

Topping, James R., and Miyataki, Glenn K. Program Measures. Boulder, Colo.: Western Interstate Commission for Higher Education, 1973.

2841932000045100(55%):
9341600000045300(45%):
4.5M:174:GD:JoP:2BA128

Advisory Structure for the
NATIONAL CENTER FOR HIGHER EDUCATION MANAGEMENT SYSTEMS at WICHE

BOARD OF DIRECTORS

James Furman (Chairman)
Executive Coordinator, Washington Council on Higher Education

George Kaludis (Vice Chairman)
Vice Chancellor, Operations and Fiscal Planning, Vanderbilt University

Rutherford H. Adkins
Vice President, Fisk University

Fred E. Balderston
Chairman, Center for Research in Management Science and Professor of Business Administration, University of California, Berkeley

Max Bickford
Executive Officer
Kansas Board of Regents

Allen T. Bonnell
President, Community College of Philadelphia

Kenneth Creighton
Deputy Vice President for Finance
Stanford University

Ralph A. Dungan
Chancellor, New Jersey Department of Higher Education

Alan Ferguson
Executive Director, New England Board of Higher Education

Paul E. Gray
Chancellor
Massachusetts Institute of Technology

James F. Gollattscheck
President, Valencia Community College

Freeman Holmer
Vice Chancellor for Administration
Oregon State System of Higher Education

Douglas MacLean
Vice President for Management Services, University of Houston

Robert Mautz
Chancellor, State University System of Florida

William R. McConnell
Executive Secretary, New Mexico Board of Educational Finance

Donald McNeil
Chancellor
University of Maine

James L. Miller
Professor, Center for the Study of Higher Education, The University of Michigan

G. Theodore Mitau
Chancellor, The Minnesota State College Board

Gordon Osborn
Assistant Vice Chancellor for Management, State University of New York, Central Administration

Thomas S. Smith
President
Lawrence University

Richard S. Takasaki
Executive Vice President
University of Hawaii

Virginia Trotter
Vice Chancellor for Academic Affairs
University of Nebraska

Marvin Wachman
President
Temple University

Fred Wellman
Executive Secretary, Illinois Junior College Board

Martin Zeigler
Associate Vice President for Planning and Allocation
University of Illinois

TECHNICAL COUNCIL

James Eden (Chairman)
Vice President for Management and Finance and Treasurer
University of Cincinnati

John F. Chaney (Vice Chairman)
Vice Provost for Management Systems, University of Colorado

Edward Cratsley
Vice President for Finance and Administration, Swarthmore College

William Dempsey
Assistant to the President, State University of New York, Plattsburgh

Dallas R. Fox
Coordinator of Data Systems and Models, State University System of Florida

Boyd W. Horne
Assistant Chief, Budget Planning and Administration, The California State University and Colleges

T. Harry McKinney
Professor of Administration and Higher Education, Michigan State University

William R. Odom
Coordinator, PPBS Development, Division of Community Colleges, Florida State Department of Education

Michael M. Roberts
Director, Management Systems
Stanford University

Gloria Scott
Director of Institutional Research and Planning
North Carolina A & T State University

Howard D. Sims
Director of Business Services and Management
Metropolitan Junior College District, Missouri

Burton Wolfman
Assistant Secretary for Educational Affairs
Commonwealth of Massachusetts